

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,649	11/29/2001	Jarmo Hiipakka	04770.00029	1672

22907 7590 08/02/2004

BANNER & WITCOFF
1001 G STREET N W
SUITE 1100
WASHINGTON, DC 20001

EXAMINER

BAYERL, RAYMOND J

ART UNIT

PAPER NUMBER

2173

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,649

Applicant(s)

HIIPAKKA, JARMO

Examiner

Raymond J. Bayerl

Art Unit

2173

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 4, 6 - 31, 33 - 48 is/are rejected.
- 7) ☒ Claim(s) 5 and 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 2173

1. Claim 23 is objected to because of the following informalities: the phrase "removing on [one of?] the represented visual icon[s?]" at lines 3 – 4 is unclear.

Appropriate correction is required.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3, 44, 46, 47 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, "the first icon" lacks clear antecedent basis, since in parent claim 2's "representing", only "the visual icon" is displayed. Also, in claim 44, "the first set of icons" lacks clear antecedent basis—only "a set of user-selectable icons" appears in parent claim 43.

It is not clear why applicant presents the pair of claims 46, 47, which are identical. Had some distinguishing characteristic been intended, in presenting two such claims, that did not actually become part of the claims as filed?

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 4, 10, 12 – 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leonowich ("Leonowich"; US #6,195,004 B1) in view of Hirohama ("Hirohama"; US #5,797,125).

As per independent claim 1's "providing an audio user interface for a mobile terminal", Leonowich's DISTRIBUTED EARCON LOCAL AREA NETWORK allows a monitoring user to be apprised of events, via a device that is specifically placed or carried by a user resulting in the user being informed of all events occurring within the network (Abstract; see also Leonowich's reference numeral 42, fig 2, from which audio emanations alert the user). Significantly in Leonowich, assigning distinct audio sounds to represent events executed by a device (col 1, line 57 – col 2, line 2) reads upon the "message associated with at least one corresponding auditory icon".

While Leonowich contains identical disclosure of "prioritizing the plurality of messages" by using a threshold status level that would have to be met in order for another device's signal to be transmitted from that device (col 3, lines 45 – 61), this is not "prioritizing...based on at least one context value".

However, in the VOICE GUIDE SYSTEM INCLUDING PORTABLE TERMINAL UNITS that is taught in Hirohama, a "mobile terminal" responds according to its location relative to different guide areas and also the languages needed by individual users (see also col 3, line 61 – col 4, line 39).

Thus, it would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to base the presentation of Leonowich's EARCON information upon "context"-sensitive criteria, as in the Hirohama VOICE GUIDE, for this makes the resulting "mobile terminal" all the more pertinent to individual user needs.

In customizing the languages for guide areas, the PORTABLE TERMINAL UNITS of Hirohama carry out "comparing" the terminal's preferences to the available

Art Unit: 2173

audio content, and thus, impose a "context value" as in claim 4. In so doing, claim 13's "ordering each received message in order of matching to the context value" occurs, since the messages that are desirable in the user context are presented first.

The audio equipment of the Leonowich/Hirohama combination must at least be "monophonic" in generating the Leonowich "auditory icon" (claim 10; this is also applicable to claim 29 below).

The GUIDE information that is output by Hirohama reads upon claim 12's "streaming additional descriptive audio information", as it does as well upon the similar language in claim 31. When the Leonowich device 42 picks up a "message", it is receiving an indication of "the corresponding auditory icon" (claim 14), in which "identifying" the icon for rendering occurs (claim 15).

Independent claim 16 is similar in many regards to claim 1, but is alternatively embodied as "identifying at least one best match message based on the at least one context value". But this is what Hirohama does, in picking the language-matched item of guide information.

6. Claims 33, 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leonowich in view of Hilpert, Jr. et al. ("Hilpert"; US #6,404,442 B1).

As per the "mobile terminal" functionality claimed in independent claim 33 (see also independent claim 48), it has been noted above that an "auditory icon" is output from the Leonowich device 42, responsive to an elevated relevance of a message that prompts it. Leonowich alone does not fairly teach the correlation of "visual icons" with

Art Unit: 2173

“an associated auditory icon”, to allow the user “to select at least one of the visual icons” and then hear its “auditory icon”.

However, Hilpert’s IMAGE FINDING ENABLEMENT WITH PROJECTED AUDIO remedies this lack—sounds are projected or rendered in space surrounding a computer system to provide information concerning various aspects of information displayed on the computer system display screen (Abstract). Thus, a screen like Hilpert’s fig 3, with its assortment of “visual icons”, is projected into an auditory space such as fig 6’s, to assist the user (see also col 2, lines 8 – 26).

Thus, it would have also been obvious to a person having ordinary skill in the art at the time of applicant’s invention to use the display screen/auditory association of Hilpert in the environment of Leonowich’s messaging, with the motivation being to give the user a dual-format “terminal” that allows visual confirmation and intuitive spatial distribution of effect.

7. Claims 2 – 3, 6 – 9, 11, 17 - 31, 34 – 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leonowich in view of Hirohama and Hilpert.

The Leonowich/Hirohama combination does not contain **explicit** teachings of “visual icon”/“auditory icon” association (claims 2, 17, 21; see also independent claim 18), “presenting a spatial position” (claims 6, 25) to a user, as by “stereo amplitude panning” (claims 7, 26), “acoustic modeling and auralization” (claims 8, 27), or a “stereophonic mode” (claims 9, 28). However, as noted above in the characterization of Hilpert, this form of audio rendering was known in the art and developed so as to increase user intuitiveness. (It should be noted, too, that a “first icon” in Hilpert can

Art Unit: 2173

certainly be "enlarged in relation to other icons" (claim 3), simply by its static specification.)

Thus, it would have been still further obvious to the person having ordinary skill in the art to use the specific audio projection of Hilpert in the EARCON-presenting Leonowich arrangement, when modified to create a "context"-based "prioritizing" as per Hirohama, with the motivation being to aid the Leonowich user in responding to the "messages" that are transmitted to device 42, the "mobile terminal".

In a similar line of reasoning, it would have been obvious to the person having ordinary skill in the art to render the iconic indications of Hilpert via "text-to-speech (TTS) synthesis" (claims 11, 30), so as to give a better rendering of textual material on a screen such as Hilpert's fig 3, which depicts claim 20's "navigation bar" (see also claim 43).

Independent claim 19 is similar in many respects to the "match"-based embodiment of claim 16, but also adds the "visual icon"/"auditory icon" association, thus reading upon Hilpert in combination.

As time progresses in any interface such as Leonowich, Hirohama or Hilpert, a repetitive sequence resulting in "updating" the "icons" must occur, to keep the display relevant. Thus, when an "additional visual icon" (claim 22) appears or one is "removed" (claim 23), the "auditory icon" representation must keep current with the display.

The matter of a "selected visual icon" prompting a presentation of "the auditory icon associated with" it (claims 24, 45) has been treated above with respect to claim 33,

Art Unit: 2173

in noting that Hilpert produces audio indications of user-selected visual interface icons (see col 5, lines 13 – 43).

As also noted above with respect to claim 1, Hirohama reads upon “prioritizing a plurality of messages based on at least one context value” (claim 34), these being “specific to a user of the mobile terminal” (claim 35; in Hirohama, the language of the user at a guide area).

The presentation of Leonowich/Hirohama icons in the Hilpert modification is one in which the display prominence of that which appears and which does not appear will suggest the claim 36 use of “relative size” (see also claim 44) and claim 37’s display “consecutively in order of priority” (see also claims 41, 46, 47). A reference such as Hirohama at least contains display/no-display status, and this is a size-determining sequential choice.

As per the “proximity value” used as a parameter in claim 38, the proximity of Hirohama’s “mobile terminal” governs which messages it will output. In producing a display as per Hilpert, the guide area of the present will be seen as more prominent on this basis (claims 39, 40).

Independent claim 42 is rejected for reasons similar to those given for the rejection of claim 19 above.

8. Claims 5, 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2173

As per the use of "an artificial neural network" in these claims to "prioritize the plurality of messages", while heuristics *per se* must be used in an arrangement like Leonowich's (e.g., the application of a threshold to messages), this more particular form of logical componentry was not taught nor suggested by the prior art made of record.


9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The additional references made of record (see attached form PTO-892) relate to various uses of audio in user interactive systems. Applicant's attention is particularly drawn to the "auditory icon" style of Isaacs et al. (US #6,760,754 B1), in which external users are represented by distinctive sounds.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond J. Bayerl whose telephone number is (703) 305-9789. The examiner can normally be reached on M - F from 10:00 AM to 5:00 PM.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca, can be reached on (703) 308-3116. All patent application related correspondence transmitted by FAX **must be directed** to the central FAX number (703) 872-9306.

12. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


RAYMOND J. BAYERL
PRIMARY EXAMINER
ART UNIT 2173

26 July 2004